Intra-abdominal and Retroperitoneal Soft Tissue Sarcomas Survey in Iranian Patients
Mesenchymal tumors have included two broad categories of soft tissue sarcomas (STSs) and bone sarcomas based on the World Health Organization (WHO) classification. STSs are responsible for about 1% of malignant tumors, which may occur in all ages and any location in the body.

In 2016 in the United States, 12310 new cases of soft-tissue sarcomas and 4990 death have been documented.
In general, from a total of soft-tissue sarcomas, 60% are related to extremity (most commonly, the thigh), 19% are originated from trunk wall, 15% are located in the retroperitoneum and the rest of 9% involved head and neck tissue.

- The intra-abdominal soft-tissue sarcomas are consist of liposarcoma and Leiomyosarcoma, which often happened in the retroperitoneum.
Retroperitoneal sarcoma (RPS) and intra-abdominal sarcoma (IaS) are related to various soft tissue tumors by a variety of prognostic values. Nearly 12-15% of all STSs are retroperitoneal sarcomas. The annual incidence rates of RPS estimated 2.7 cases per million.

The annual Prevalence of RPS in the USA is about 1250 new cases. They occur more in men by the ratio of ~1.3:1 and commonly diagnosed from 54 to 65 years.
Intra-abdominal sarcoma (IaS) is referred to as the peritoneal cavity sarcomas or intraperitoneal sarcomas in the medical literature, which included visceral sarcomas as well. Approximately 15-20% of STSs route are originated from the intra-peritoneal space or gastrointestinal tract. Gastrointestinal stromal tumors (GISTs) are accountable for the majority of intra-abdominal sarcoma. In this regard, strict anatomical definitions divided them into two groups of GISTs and intra-abdominal sarcomas other than GISTs.
The diagnosis of intra-abdominal and retroperitoneal sarcomas (IaRS) is often challenging since they have often involved significant visceral structures and greater lesion at diagnosis. Moreover, their signs and symptoms are not usually distinctive and discreet.

The tumor site, hemorrhage, ascites, pressure symptoms, and pain could influence on IaRS symptoms. IaRS should be diagnosed by MR-, CT-, or ultrasound scans when the tumor has reached an appropriate size.
• Treatment strategy for IaRS has affected by the precise diagnosis, especially for compartment resection.

Recurrence RPS has reported 22-84% that is related to difficulties for obtaining a complete surgical resection and recurrence of histological subtypes.

The Long-term survival rate in RPS is 50-66%.
• By the present study, we attempt to report a 10-year survey on prevalence and demographic characteristics or potential risk factors of retroperitoneal sarcoma (RPS) and intra-abdominal sarcoma (IaS) in Iranian patients.
In the present study, the data of 2142 patients were included and evaluated. Of the patients with STS, 993 (46.4%) were women and 1149 (53.6%) were men.

The patients were categorized into three groups of children (less than 15 years old), adults (15-65 years old), and the elderly (over 65 years old) according to age. Among the patients, 109 (5.1%) were children, 1450 (67.7%) were adults, and 583 (27.2%) were in the elderly age group.
the most frequent primary tumor site was the connective tissue of the pelvis (19.5%) followed by retroperitoneum (19%), the connective tissue of the abdomen (13.1%), and the stomach (9.9%).

Tumor recurrence was also evaluated, with the most common sites being the abdomen and retroperitoneum (n = 1229, 57.4%), stomach (n = 213, 9.9%), ill-defined sites of the abdomen (n = 182, 8.5%), small intestine (n = 181, 8.5%) and ill-defined sites of the pelvis (n = 152, 7.1%).
The **morphology** of soft sarcomas was evaluated, gastrointestinal stromal sarcoma (16.9% and n = 362) being the most common, followed by sarcoma (9.9%, n = 212), spindle cell sarcoma (9.9%, n = 211), leiomyosarcoma (7.7%, n = 166%) and liposarcoma not otherwise specified (6.2%, n = 133)
• The morphology of the tumors was also evaluated by age and sex using Chi-square or Fisher's exact tests, showing that desmoplastic small round cell tumor in children and sarcoma and leiomyosarcoma in adults (16.8% and 9.6%, respectively) and the elderly (20.1% and 11.5% respectively) had the highest prevalence.
Sex was also examined: Gastrointestinal stromal sarcoma (16.3%) followed by leiomyosarcoma (11.8%) were the most prevalent types in women, and gastrointestinal stromal sarcoma (17.4%) and myxoid liposarcoma (9.7%) were the most prevalent in men ($p = 0.007$, table 6).
The purpose of this study was to evaluate the incidence of intra-abdominal and Retroperitoneal STS in the Iranian population. We have provided a useful overview of the rate of STS in 30 provinces of Iran.
• The peak incidence of STS was 54-50 years (11.1%), with the highest frequency being in the 40-69 age range and the lowest in the 5-14 year-old age group. According to a study in India, the peak age was in the fourth to fifth decades of life.
Fig. 4: Frequency of soft tissue sarcoma based on age groups
The results of this study evaluated the primary location of tumors with the most frequent being pelvic connective tissue (19.5%) followed by retroperitoneal (19%), abdominal connective tissue (13.1%), and stomach (9.9%).

Tumor recurrence was also evaluated, with the most common being the abdomen and the peritoneum.
According to our study, morphologically, gastrointestinal stromal sarcoma was the most common type, followed by sarcoma, spindle cell sarcoma, leiomyosarcoma, and liposarcoma not otherwise specified.
In a population-based study, that was performed in Australia:

leiomyosarcoma (20.43%), malignant fibrous histiocytoma (16.14%), and soft tissue tumors/sarcomas that were not otherwise identified (10.18%) were the most common STS subtypes), which are somewhat similar to our study.
However, a study in India found that:

90% of cases belonged to adolescents and adults, and this is consistent with our research.

Liposarcoma (18%) was the most common subtype, followed by leiomyosarcoma and Ewings sarcoma.

66.6% were in the extremities, and the rest were in the abdomen.
• On the other hand, review of this study and other studies collectively showed that epidemiological data on STS are limited.

Concerns have also been raised about the precise registration of STS in cancer registry and disease history. Solving these problems is very helpful in diagnosing and treating patients correctly.
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